UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,317	04/19/2004	Tony Larsson	0119-176	1069
42015 7590 07/29/2008 POTOMAC PATENT GROUP PLLC			EXAMINER	
P. O. BOX 270		REDDIVALAM, SRINIVASA R		
FREDERICKSBURG, VA 22404			ART UNIT	PAPER NUMBER
			2619	
			NOTIFICATION DATE	DELIVERY MODE
			07/29/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

	Application No.	Applicant(s)			
	10/826,317	LARSSON ET AL.			
Office Action Summary	Examiner	Art Unit			
	SRINIVASA R. REDDIVALAM	2619			
The MAILING DATE of this communication ap Period for Reply	pears on the cover sheet with the c	correspondence address			
A SHORTENED STATUTORY PERIOD FOR REPL WHICHEVER IS LONGER, FROM THE MAILING Description of time may be available under the provisions of 37 CFR 1 after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period Failure to reply within the set or extended period for reply will, by statut Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	DATE OF THIS COMMUNICATION 136(a). In no event, however, may a reply be tind will apply and will expire SIX (6) MONTHS from te, cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status					
Responsive to communication(s) filed on <u>09 I</u> This action is FINAL . 2b) ☐ This action is application is in condition for allowed closed in accordance with the practice under	is action is non-final. ance except for formal matters, pro				
Disposition of Claims					
4) Claim(s) 1-4 and 9-19 is/are pending in the ap 4a) Of the above claim(s) is/are withdra 5) Claim(s) is/are allowed. 6) Claim(s) 1-4 and 9-19 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/	awn from consideration.				
Application Papers					
9) The specification is objected to by the Examin 10) The drawing(s) filed on is/are: a) ac Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the E	cepted or b) objected to by the lead of a cepted or b) for objected to by the lead of a cepted of the drawing o	e 37 CFR 1.85(a). jected to. See 37 CFR 1.121(d).			
Priority under 35 U.S.C. § 119					
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 					
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 05/10/2008.	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal F 6) Other:	ate			

Art Unit: 2619

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on May 9th, 2008 has been entered. Claims 1, 4, and 9 have been amended. Claims 1-4, and 9-19 are still pending in this application with claims 1, 9 and 12 being independent.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 4. Claims 1-4, 9-10 and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cansever (US Patent No: 6,678,252 B1) in view of Toh C-K ("Associativity-Based Routing for Ad-Hoc Mobile Networks").

Application/Control Number: 10/826,317

Page 3

Art Unit: 2619

Regarding claim 1, Cansever teaches in an ad-hoc network wherein data packets are sent from a source node to a destination node via an established route, a source node (see node i in Fig.5) comprising: means (see Transmitter/Transceiver block 512 in node i in Fig.5) for requesting route discovery between the source node and a destination node (see col.7, lines 13-20 wherein generation of a route request packet from a source node to destination node to initially identify a path from source to destination is mentioned); means for determining (see Receiver/ Transceiver block 512 in node i in Fig.5) whether said request for route discovery between the source node and the destination node over existing network connections fails (see col.7, lines 36-38 wherein source node not receiving a reply packet within a specified period of time is mentioned); and means (see Processor block 504 in node i in Fig.5) for determining a route between the source node and the destination node by forming one or more new connections if it is determined that said request for route discovery between the source node and the destination node over existing network connections fails (see col.7, lines 59-61 wherein establishment of a new path is mentioned when the existing path becomes unusable due to node mobility, etc.).

Cansever teaches the source node comprising means for determining a route between the source node and the destination node by forming one or more new connections if it is determined that said request for route discovery between the source node and the destination node over existing network connections fails as mentioned above and does not teach specifically the means for determining a route between the

source node and the destination node by forming one or more new connections

associated with one or more newly formed subnetworks if it is determined that said
request for route discovery between the source node and the destination node over
existing network connection fails.

Page 4

However, Toh C-K teaches the source node comprising means for determining a route between the source node and the destination node by forming one or more new connections associated with one or more newly formed subnetworks if it is determined that said request for route discovery between the source node and the destination node over existing network connection fails (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnet-bridging MH (IN) and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the source node of Cansever to have the source node comprising means for determining a route between the source node and the destination node by forming one or more new connections associated with one or more newly formed subnetworks if it is determined that said request for route discovery between the source node and the destination node over existing network connection fails, disclosed

Art Unit: 2619

by Toh C-K for more efficient routing and higher throughput of data packets in ad-hoc mobile network.

Regarding claim 2, Cansever further teaches the source node wherein said means for requesting route discovery comprises: means for broadcasting a route discovery request message, for a route between the source node and the destination node over one or more connections associated with one or more existing subnetworks, if the source node is a member of one or more of the existing subnetworks (see col.7, lines 21-33 wherein broadcasting of a route request packet from source node to destination node over an existing connection in a subnetwork is mentioned).

Regarding claim 3, Cansever further teaches the source node wherein said means for determining whether said request for route discovery over existing network connections fails comprises: means for determining if a timely reply message is received by the source node in response to the broadcast route discovery request message (see col.7, lines 36-38 wherein the source node not receiving a reply packet within a specified period of time and re-issuing the route request packet are mentioned).

Regarding claim 4, Cansever does not teach specifically the source node, wherein said means for determining a route comprises: means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks, if it is determined that a timely reply was not received.

However, Toh C-K teaches the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks, if it is determined that a timely reply was not received (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnet-bridging MH (IN) and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the source node of Cansever to have the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks, if it is determined that a timely reply was not received, disclosed by Toh C-K for more efficient routing and higher throughput of data packets in ad-hoc mobile network.

Regarding claim 9, Cansever teaches in an ad-hoc network, an arrangement for establishing a route over which data packets are to be sent from a source node to a destination node, the arrangement (see Figures 2 and 3) comprising: a source node; and at least one destination node, wherein the source node (see node i in Fig.5) comprises: means (see Transmitter/Transceiver block 512 in node i in Fig.5) for

requesting route discovery between the source node and the destination node over existing network connections (see col.7, lines 13-20 wherein generation of a route request packet from a source node to destination node to initially identify a path from source to destination is mentioned); means (see Receiver/ Transceiver block 512 in node i in Fig.5) for determining whether said request for route discovery between the source node and the destination node over existing network connections fails (see col.7, lines 36-38 wherein source node not receiving a reply packet within a specified period of time is mentioned); and means (see Processor block 504 in node i in Fig.5) for establishing a route between the source node and the destination node by forming one or more new network connections if it is determined that said request for route discovery between the source node and the destination node over existing network connections failed (see col.7, lines 59-61 wherein establishment of a new path is mentioned when the existing path becomes unusable).

Page 7

Cansever teaches the source node comprising means for establishing a route between the source node and the destination node by forming one or more new connections if it is determined that said request for route discovery between the source node and the destination node over existing network connections failed as mentioned above and does not teach specifically the means for establishing a route between the source node and the destination node by forming one or more new connections associated with one or more newly formed subnetworks if it is determined that said request for route discovery between the source node and the destination node over existing network connection failed.

Art Unit: 2619

However, Toh C-K teaches the source node comprising means for establishing a route between the source node and the destination node by forming one or more new connections associated with one or more newly formed subnetworks if it is determined that said request for route discovery between the source node and the destination node over existing network connection failed (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnet-bridging MH (IN) and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the arrangement of Cansever to have the source node comprising means for establishing a route between the source node and the destination node by forming one or more new connections associated with one or more newly formed subnetworks if it is determined that said request for route discovery between the source node and the destination node over existing network connection failed, disclosed by Toh C-K for more efficient routing and higher throughput of data packets in ad-hoc mobile network.

Regarding claim 10, Cansever further teaches the arrangement, wherein the means for determining whether said request for route discovery between the source

Page 9

Art Unit: 2619

node and the destination node over existing network connections fails comprises: means for determining whether the source node received a timely reply in response to the request for route discovery (see col.7, lines 36-38 wherein the source node not receiving a reply packet within a specified period of time and re-issuing the route request packet are mentioned).

Regarding claim 12, Cansever teaches in an ad-hoc network, an arrangement for establishing a route between a source node and a destination node over which data packets are to be sent, the arrangement (see Figures 2 and 3) comprising: a plurality of nodes that communicate with each other over one or more subnetworks (see Fig.2); a source node; and a destination node (see node j=4 in Fig.2), wherein the source node (see node i in Fig.5) comprises: means (see Transmitter/Transceiver block 512 in node i in Fig.5) for broadcasting a route discovery request message for a route between the source node and the destination node over one or more connections associated with the one or more existing subnetworks if the source node is a member of one or more of the existing subnetworks (see col.7, lines 13-33 wherein generation of a route request packet from a source node to destination node to initially identify a path from source to destination is mentioned); means (see Receiver/ Transceiver block 512 in node i in Fig.5) for determining if a timely reply message is received by the source node in response to the broadcast route discovery request message (see col.7, lines 36-38 wherein the source node not receiving a reply packet within a specified period of time

Art Unit: 2619

and re-issuing the route request packet are mentioned) and means (see Processor block 504 in node i in Fig.5) for establishing a route between the source node and the destination node by forming one or more new connections if it is determined that a timely reply message was not received (see col.7, lines 59-61 wherein establishment of a new path is mentioned when the existing path becomes unusable).

Cansever teaches the source node comprising means for establishing a route between the source node and the destination node by forming one or more new connections if it is determined that a timely reply message was not received as mentioned above and does not teach specifically the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks if it is determined that a timely reply message was not received.

However, Toh C-K teaches the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks if it is determined that a timely reply message was not received (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnet-bridging MH (IN) and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Art Unit: 2619

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the source node of arrangement of Cansever to have the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks, if it is determined that a timely reply was not received, disclosed by Toh C-K for more efficient routing and higher throughput of data packets in ad-hoc mobile network.

Regarding claim 13, Toh C-K further teaches the source node of the arrangement further comprises: means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks if the source node is not a member of one or more of the existing subnetworks (see section 5.2.1 wherein the movement of source node is mentioned and see section 5.2.4 wherein partition of subnets due to the migration of a subnet-bridging MH and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Regarding claim 14, Toh C-K further teaches the source node of the arrangement further comprises means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks if the destination node is not a member of one or more

Art Unit: 2619

of the existing subnetworks (see section 5.2.2 wherein the movement of destination node is mentioned and see section 5.2.4 wherein partition of subnets due to the migration of a subnet-bridging MH and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned).

Regarding claim 15, Toh C-K further teaches the source node of the arrangement further comprises: means for determining whether a route over one or more new connections associated with one or more newly formed subnetworks is desirable, if it is determined that a timely reply in response to the route discovery request message is received by the source node (see section 5.2.4 wherein partition of subnets due to the migration of a subnet-bridging MH and source invoking BQ query messages are mentioned).

Regarding claim 16, Cansever further teaches the source node of the arrangement further comprises: means for establishing a route between the source node and the destination node over one or more connections associated with the one or more existing subnetworks, if it is determined that a timely reply in response to the route discovery request message is received and it is determined that a route over one or more new connections associated with one or more newly formed subnetworks is not desirable (see col.7, lines 17-36 wherein broadcasting of a route request packet and identifying a path from source node to destination node over an existing connection in a subnetwork is mentioned).

Art Unit: 2619

Regarding claim 17, Cansever teaches the source node of the arrangement further comprising: means for establishing a route between the source node and the destination node over one or more connections associated with the one or more existing subnetworks if it is determined that a timely reply in response to the route discovery request message is received (see col.7, lines 17-36 wherein broadcasting of a route request packet and identifying a path from source node to destination node over an existing connection in a subnetwork is mentioned).

Cansever does not teach specifically the source node of the arrangement further comprises: determining that a route over one or more new connections associated with one or more newly formed subnetworks is desirable, and for simultaneously initiating route discovery for a route between the source node and the destination node over one or more connections associated with one or more newly formed subnetworks.

However, Toh C-K teaches the source node of the arrangement further comprises: determining that a route over one or more new connections associated with one or more newly formed subnetworks is desirable, and for simultaneously initiating route discovery for a route between the source node and the destination node over one or more connections associated with one or more newly formed subnetworks (see section 5.2.4 wherein partition of subnets due to the migration of a subnet-bridging MH and source invoking BQ query messages are mentioned and also see section 5.1

Art Unit: 2619

wherein the source broadcasting BQ query message to establish a new route between source node and destination node is mentioned).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the source node of arrangement of Cansever to have determining that a route over one or more new connections associated with one or more newly formed subnetworks is desirable, and for simultaneously initiating route discovery for a route between the source node and the destination node over one or more connections associated with one or more newly formed subnetworks disclosed by Toh C-K for more efficient routing and higher throughput of data packets in ad-hoc mobile network.

5. Claims 11, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cansever (US Patent No: 6,678,252 B1) in view of Toh C-K ("Associativity-Based Routing for Ad-Hoc Mobile Networks") and further in view of Zyren (US Patent No: 6,377,608).

Regarding claim 11, Cansever and Toh C-K and do not teach specifically the arrangement wherein the network is a Bluetooth technology based network.

However, Zyren teaches the arrangement wherein the network is a Bluetooth technology based network (see col.1, lines 25-32 wherein ad-hoc networks comprising Bluetooth radios is mentioned).

Art Unit: 2619

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the arrangement of Cansever and Toh C-K to include Bluetooth technology based network in ad-hoc network disclosed by Zyren to support industry standard technology i.e. Bluetooth for ad-hoc networks.

Regarding claims 18 and 19, Cansever and Toh C-K do not teach specifically the arrangement wherein ad-hoc network is a Bluetooth technology based network and the existing and newly formed subnetworks are piconets.

However, Zyren teaches the arrangement wherein ad-hoc network is a Bluetooth technology based network and the existing and newly formed subnetworks are piconets (see col.1, lines 25-32 wherein ad-hoc networks comprising Bluetooth radios is mentioned and also piconets are mentioned in adhoc network for subnetworks).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the arrangement of Cansever and Toh C-K to have Bluetooth technology based network for ad-hoc network and piconets for the existing and new subnetworks disclosed by Zyren to support industry standard technology i.e. Bluetooth for ad-hoc networks and for efficient routing in ad-hoc networks.

Response to Arguments

Application/Control Number: 10/826,317

Art Unit: 2619

6. Applicant's arguments filed on May 9th, 2008 have been fully considered but they are not persuasive.

Page 16

In page 7 of Applicant's Remarks, Applicants mention that variously claimed 7. embodiments are believed to be patentably distinguishable over any combination of Cansever with Toh C-K at least because neither of these documents discloses or suggests "means for establishing a route between the source node and the destination node over one or more new connections associated with one or more newly formed subnetworks if it is determined that a timely reply message was not received". However, Cansever teaches means (see Processor block 504 in node i in Fig.5) for establishing a route between the source node and the destination node by forming one or more new connections if it is determined that a timely reply message was not received (see col.7, lines 59-61 wherein establishment of a new path is mentioned when the existing path becomes unusable due to node mobility etc.) and Toh C-K teaches the source node comprising means for establishing a route between the source node and the destination node over one or more new connections associated with one or more **newly formed subnetworks** if it is determined that a timely reply message was not received (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnet-bridging MH (IN) and source invoking BQ guery messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned). Thus, Cansever in combination with Toh C-K disclose "means for establishing a route between the source node and the destination

Art Unit: 2619

node over one or more new connections associated with one or more newly formed subnetworks if it is determined that a timely reply message was not received"

8. In page 9. Applicants mention that Toh C-K handles the situation merely by attempting some form of repeated BQ query and nothing in this teaching describes or even suggests that an attempt will be made to form "one or more new connections associated with one or more newly formed subnetworks", as defined in Applicants' claims. However, w.r.t. Applicants' claims, Cansever clearly teaches to establish a new path when the path for a flow becomes unusable due to node mobility etc (see col.7, lines 59-61) which is equivalent to establishing a route between the source node and the destination node by forming one or more new connections if it is determined that said request for route discovery between the source node and the destination node over existing network connections fails. Cansever does not teach specifically forming one or more new connections associated with one or more newly formed subnetworks as mentioned the claims. Toh C-K teaches forming one or more new connections associated with one or more newly formed subnetworks as explained above under claim rejections for these claims (see section 5.2.4 wherein partition of subnets into two new subnets due to the migration of a subnetbridging MH (IN) and source invoking BQ query messages are mentioned and also see section 5.1 wherein the source broadcasting BQ query message and the establishment of a new route between source node and destination node are mentioned). Cansever clearly teaches, when a flow becomes unusable due to node

Art Unit: 2619

mobility, to establish a new path and the formation of new subnets due to the migration of subnet-bridging MH (IN) is disclosed by Toh C-K. Thus Cansever in combination with Toh C-K teach the limitations of independent claims 1, 9 and 12 and is also explained under section 7 above.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any response to this office action should be faxed to (571) 273-8300 or mailed To:

Commissioner for Patents,

P.O. Box 1450

Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window

Randolph Building

Art Unit: 2619

(1st Friday OFF).

401 Dulany Street Alexandria, VA 22314.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SRINIVASA R. REDDIVALAM whose telephone number is (571)270-3524. The examiner can normally be reached on Mon-Fri 9:30 AM - 7 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

(, , ,

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Srini Reddivalam

07/20/2008

Art Unit: 2619

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2619